

Patent Claims

1.

A thermoplastic reinforcing material for the shoe production, in the form of a hot-melt adhesive/filler material compound, characterized in that it comprises

- a. one or several hot-melt adhesive(s) in amounts of 50 to 95 weight %, with MVR values (measured at 100 °C, 21.6 kg based on DIN ISO 1133) ranging from 2 to 300, preferably from 10 to 20 cm³/10min and
- b. one or several filler materials in amounts of 50 to 5 weight %, which do not dissolve in the hot-melt adhesive and that the hot-melt adhesive/filler material compound simultaneously meets the following parameters by having:
 1. an MVR value between 2 and 6, preferably between 3 and 5 cm³/10min;
 2. a surface stickiness/tack/ measured according to DIN EN 14610 at 65°C of at least 10N to maximally 60N, preferably 15N and especially preferred 30N;
 3. a bonding value/peeling strength/ toward top materials and linings of at least 30 N/5 cm, measured on the basis of DIN 53357;
 4. a maximum longitudinal extension of 25%, preferably less than 20%, measured after 5 minutes in the hot cabinet at temperatures of 90°C.

2.

The thermoplastic reinforcing material for the shoe production in the form of a hot-melt adhesive/filler material compound as defined in claim 1, characterized in that the component **a**, the hot-melt adhesive, comprises a mixture of 1.) a linear polyester

in amounts of 75 to 95 weight % and/or a thermoplastic polyurethane in amounts of 75 to 95 weight %, together with 2.) ethylene vinyl acetate copolymers in amounts of 0 to 25 weight % with a vinyl acetate content of 10 to 40 weight %, preferably 15 to 25 weight % and that the filler material, in amounts of 50 to 5 weight %, is selected from the group of inorganic, mineral filler materials, organic plant filler materials, plastic materials and mixtures thereof, which are present in the form of spherical, polyhedral particles with a particle-size distribution between 45 and 1000 μ m, preferably 45 to 500 μ m, or in the form of fibers with a length of 45 to 1000 μ m, preferably 45 to 500 μ m.

3.

The reinforcing material as defined in claim 1, characterized in that the filler material is wood flour with a particle-size distribution of 45 to 500 μ m.

4.

The reinforcing material as defined in claim 1, characterized in that the filler material is chalk with a particle size of 45 μ m.

5.

The reinforcing material as defined in claim 1, characterized in that the surface stickiness/tack/ of the hot-melt adhesive/filler material compound has a value of 25 to 45N.

6.

The reinforcing material as defined in claim 1, characterized in that the longitudinal extension of the hot-melt adhesive/filler material compound is less than 20%, measured at temperatures of 90°C.

7.

A method for producing the thermoplastic reinforcing material for the shoe production in the form of a hot-melt adhesive/filler material compound as defined in claim 1, characterized in that the hot-melt adhesive is melted on and that the filler material is added to the hot melt by means of a metering device and is worked in by stirring and kneading, that the moisture and exiting gases are suctioned off with a degassing device, that the resulting plastic mass is subjected to another vacuum degassing, and that the plastic mass, pre-treated in this way, is conveyed away for further processing.

8.

The method for producing the thermoplastic reinforcing material for the shoe production in the form of a hot-melt adhesive/filler material compound as defined in claim 1, characterized in that the hot-melt adhesive/filler material compound is granulated, that the granulated material is melted again and is then processed further by means of extrusion or calendering to form a flat foil.

9.

The method for producing the thermoplastic reinforcing material for the shoe production in the form of a hot-melt adhesive/filler material compound as defined in claim 1, characterized in that the hot-melt adhesive/filler material compound is processed further as raw material into reinforcing parts, using injection-molding machines.

10.

The use of the hot-melt adhesive/filler material compound as defined in claim 1, in the form of a fine powder having a particle-size distribution of 50 to 1000 μ m for producing a flat foil which is used to finish or complete the reinforcing parts.

11.

The use of the hot-melt adhesive/filler material compound as defined in claim 1, in the form of a fine powder having a particle-size distribution of 50 to 1000 μ m for producing three-dimensional reinforcing parts.

12.

Shoes comprising a reinforcing material as defined in claims 1 to 11.